

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION**

WILLOW INNOVATIONS, INC.

*Plaintiff,*

v.

CHIARO TECHNOLOGY LTD.,

*Defendant.*

Civil Action No. 2:23-cv-00229-JRG

**JURY TRIAL DEMANDED**

**PLAINTIFF WILLOW'S REPLY IN SUPPORT OF ITS  
OPENING CLAIM CONSTRUCTION BRIEF**

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Elvie’s response misinterprets the scope of Willow’s patent claims by inappropriately focusing on extrinsic evidence, such as infringement contentions and selective excerpts from lab notebooks and inventor emails, to suggest that the claims are limited to only one specific type of “peristaltic” pump disclosed in the specification. For the most important dispute between the parties—“pump mechanism”—Elvie’s proposal disregards the actual claim language (which does not specify “peristaltic” pumps or “compressible tubes with actuators”), overlooks the broader teachings of the patent specifications (which expressly teach a POSA that the claims are directed to various types of pumps), and wholly ignores the prosecution history (which shows that the examiner understood and applied a claim scope that was not so limited).

Furthermore, Elvie’s criticism of Willow for not presenting an expert to define the plain and ordinary meaning of the claims is unfounded. Intrinsic evidence is the most authoritative source in claim construction, and in this case, it alone suffices to clarify the claim scope. Elvie’s reliance on extrinsic evidence is further undermined by the deposition of its own expert, Dr. Stone, who admitted to disregarding parts of the specification that clearly show the claims are not limited to peristaltic pumps. Ex. K at 118:3-16 (disregarding these teachings because they are “***not relevant to what a peristaltic pump is***”). At bottom, as addressed in Willow’s Opening Brief and below, Elvie’s assertion that Willow’s patents do not encompass diaphragm pump architecture is contradicted not only by the intrinsic evidence but also Dr. Stone’s testimony.

## I. CONSTRUCTION OF TERMS COMMON TO MULTIPLE PATENTS

### A. “pump mechanism” terms

#### 1. *Elvie fails to rebut the § 112(f) presumption*

Means-plus-function under § 112(f)—a framework suggested by Dr. Stone because he saw it once before (*id.* at 97:4-98:2)—does not apply to these terms which do not recite “means for” language. Notably, Elvie fails to cite any authority finding that the claim language here invokes §

112(f). Dkt. 82 at 6-8. Elvie also fails to distinguish *Greenberg v. Ethicon Endo-Surgery, Inc.*, where the Federal Circuit held that the term “detent mechanism” was not a means-plus-function term because “detent … **as the name for structure**, has a reasonably well understood meaning in the art.” 91 F.3d 1580, 1583 (Fed. Cir. 1996). Here, “pump” falls in the same category—and Dr. Stone acknowledged that a POSA would understand that a “pump mechanism” refers to a “pump.” Ex. K at 107:2-10; *see Williamson v. Citrix Online LLC*, 792 F.3d 1339, 1348 (Fed. Cir. 2015) (the essential inquiry under § 112(f) is whether “the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure”). And while a “pump” is well understood to a POSA (Ex. K at 107:2-10, 107:12-108:15), Elvie resorts to more extrinsic evidence to argue that their dictionary definition of “pump” is insufficient because it uses “another nonce word, ‘device.’” Dkt. 82 at 6. But the same was true in *Greenberg*, where the definition of “detent” was “a part of a **mechanism** (as a catch, pawl, dog, or click) that locks or unlocks a movement.” 91 F.3d at 1583. Like the “pump” at issue here, *Greenberg* noted that “[m]any devices take their names from the functions they perform,” including “filter,” “brake,” “clamp,” “screwdriver,” and “lock,” but that is nevertheless “[in]sufficient to convert a claim element containing that term into a ‘means for performing a specified function.’” *Id.*

Elvie’s contention that Willow’s construction is “extraordinarily broad[]” (Dkt. 82 at 7) is belied by Dr. Stone, who admitted that (1) only a limited number of pumps were known in the art (diaphragm, piston, centrifugal, and peristaltic pumps), (2) the universe of pumps appropriate for use in a breast pump was even more limited, and (3) their “applications” (i.e., how to make and use them) were also well understood by a POSA. Ex. I ¶ 23; Ex. K at 107:12-108:15. Elvie’s brief, as it must, concedes this point. Dkt. 82 at 6 (“[A] POSA reviewing the claims and specification of the asserted patents would not have understood ‘pumping mechanism’ to

contemplate incorporating any and every ‘pump’ known at the time into Willow’s in-bra, wearable breast pump.”). Thus, based on Elvie’s and Dr. Stone’s own admissions, the class of available structures for the claimed pumping mechanism was as limited as it was well understood. At bottom, the claims do not invoke § 112(f). *See Personalized Media Communs., L.L.C. v. ITC*, 161 F.3d 696, 705 (Fed. Cir. 1998) (finding “detector” sufficiently structural because “[e]ven though the term ‘detector’ does not specifically evoke a particular structure, it does convey to one knowledgeable in the art a variety of structures known as ‘detectors’”).

Elvie also fails to meaningfully address the fatal inconsistency in its 112(f) positions based on the prosecution of its own claim term, “*mechanical or magnetic mechanism*.” Dkt. 82 at 8. There is no question that “mechanical mechanism” (which common sense dictates is redundant) provides less structure (and maybe no structure at all) to a POSA as compared to a “pump” or “pumping” or “vacuum pumping” mechanism, which conjures one of only a few different pump types. Ex. K at 103:15-105:1. Accordingly, how can Elvie credibly argue here that Willow’s “pump mechanism” invokes means-plus-function when it told the Patent Office that its own “mechanical mechanism”—two “nonce” words to borrow from Elvie’s argument—does not?

## **2. *Elvie disregards the dispositive intrinsic evidence***

Elvie argues that Willow’s “sole evidence of intrinsic support comes from the one-time use of ‘equivalent.’” Dkt. 82 at 8-9. Not so. While Elvie is fixated on its foregone, but erroneous, conclusion that Willow’s pump mechanism is limited to only a cylindrical, compressible tube, Willow’s patents unambiguously teach in numerous instances that the claimed pump mechanism is not so limited:

- “pumping regions 40, 42 [of tube 32] do not need to be in the shape of a cylindrical tube, *or even a tube at all, but can be any volume shape that be changed/compressed*. For example, the cross-section could be oval, square, trapezoid, etc. as needed to fit the device space.” (Ex. D at 12:2-5)

- “[A]lthough both portions 32S and 32L [of flex-tube 32] are shown as tubular portions being circular in cross-section, ***the present disclosure is not limited to such, as one or both portions could be shaped otherwise.***” (Ex. A at 17:31-34)
- “[T]he ***conduit region 32L in the embodiment of FIG. 3 is not cylindrical,*** but is formed as a pump chamber having a substantially oval face 32F and walls that extend substantially perpendicular thereto.” (*id.* at 17:35-38)
- “Like regions 32S and 32L, region 32S2 ***may be cylindrical and circular in cross section, but need not be.***” (*id.* at 17:46-47)
- “[T]he ***present disclosure is not limited to [a tubular shape].***” (Ex. C at 9:49-52).

In sum, these express disclosures inform a POSA that the claims cover the limited world of pumps.

Moreover, Elvie’s contention that Willow’s patents disclose “variations of peristaltic pump systems, and no other pump type,” (Dkt. 82 at 9) is belied by Dr. Stone’s admission that a diaphragm pump “includes a volume that can be changed or compressed,” which is an express teaching in the specification. Ex. K at 26:8-11; *see* Ex. D at 12:2-5.

Elvie’s reliance on *Apple Inc. v. Masimo Corp.*, 2024 WL 137336, at \*3 (Fed. Cir. Jan. 12, 2024), is misguided. There, the court limited the scope of the claimed “processing characteristics” to “one or more signals from one or more detectors configured to detect [light]” because the claim language did not permit a broader scope. *Id.* As the court noted, “[the recited] signals represent the only signals received and processed in the claimed patient-monitoring invention.” *Id.* (citing claim 1 of Masimo’s ’703 patent). Here, by contrast, Willow’s claims are agnostic to the specific type of pump mechanism and do not support Elvie’s narrow reading.

### 3. *The extrinsic evidence supports plain and ordinary meaning*

Because it has no support in terms of intrinsic evidence, Elvie doubles down on highly selected portions of attorney-collated extrinsic evidence and Dr. Stone’s reliance on it. But the sliver of cited extrinsic evidence tells only Elvie’s side of the story, not what happened during Willow’s pioneering research and development of the first-ever discrete, wearable, under-the-bra

breast pump, and the broad patenting around it. Dr. Stone admitted at his deposition that he was given only discrete excerpts from only one inventor notebook. Ex. K at 40:15-42:19.

Even a quick glance at other communications between the inventors show they had possession of other pump designs, including a diaphragm pump. For example, one email discusses a “piston design[]” that is not limited to a peristaltic architecture, *see* Ex. 7 at WLLW-ELV-00314715, and diaphragm pumps are also disclosed in a different inventor’s lab notebook—one that Dr. Stone was not asked to review. Dkt. 82 at 10-11; Ex. K at 40:15-42:15. Exemplary images from Exhibit N showing a diaphragm (also called a membrane) are obvious. Ex. N at 6049, 6062.

The Willow inventors’ goal was to claim the pump mechanism broadly—as evidenced by the claim language itself. Nowhere is “peristaltic” or “diaphragm” or “piston” used in the claims. Elvie fails to rehabilitate Dr. Stone on these shortcomings (Ex. K at 118:3-16, 130:2-131:1), and Elvie’s argument that Willow’s patents “do not disclose an entirely re-designed invention comprising a new pump system,” Dkt. 82 at 12, fails in view of the proper standard by which to analyze intrinsic evidence in its entirety as understood by a POSA. In any event, as discussed above, Dr. Stone admitted that Willow’s patents disclose a diaphragm pump to a POSA. Ex. K at 26:8-11.

#### **B. the “upward flow” limitations**

On upward flow, Elvie resorts to irrelevant arguments based on Willow’s infringement contentions. But “claim construction is intended to be decided based on the intrinsic evidence and to a lesser extent the extrinsic evidence—neither of which depend on the infringement positions or infringing products.” *Mondis Tech, Ltd. v. LG Elec., Inc.*, No. 2:08-CV-478-TJW-CE, 2011 WL 2149925, at \*3 (E.D. Tex. May 5, 2011). In any event, Elvie cannot justify a departure from the plain and ordinary meaning by relying on *O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1361 (Fed. Cir. 2008). *O2 Micro* merely holds that plain and ordinary meaning

“may be inadequate when a term has more than one ‘ordinary’ meaning or when reliance on a term’s ‘ordinary’ meaning does not resolve the parties’ dispute.” *Id.* Whereas here, with upward, there is only one “ordinary” meaning consistent with the claim language, the Court can resolve the parties’ dispute by rejecting Elvie’s unsupported construction. *Finjan, Inc. v. Secure Computing Corp.*, 626 F.3d 1197, 1206-07 (Fed. Cir. 2010) (distinguishing *O2 Micro* after noting the district court properly rejected defendant’s “unjustifiably narrow” construction).

Once again, Dr. Stone’s deposition testimony supports Willow’s position, and Elvie conspicuously fails to address the fatality of the testimony to its position. Dr. Stone rightfully distinguished between upward ***relative to the bottom of the flange*** (per the claims), as compared to upward ***relative to gravity*** (his opinion outside the claims and specification). According to Dr. Stone, “up and down are ***relative terms related to gravity***, but the drawings relate instead to direction ***with regard to the bottom of the flange***.” Ex. K at 55:9-19. The claim language consistent with the specification controls and the terms are clear—upward movement is determined ***relative to the bottom portion of the flange***. Ex. A at 50:45-51:2; Ex. F at 51:17-27. In response, Elvie argues that rotation of the device “would read out the claim language ‘bottom portion’ and ‘bottom’ because the bottom in one orientation would no longer be the bottom in the rotated orientation.” Dkt. 82 at 14-15. But that is simply wrong and contrary to Dr. Stone’s testimony, which correctly recognizes that the top and bottom of the device are always fixed—thus, the key reference point (i.e., bottom portion of the flange) remains fixed even if the device is rotated, e.g., when the user is pumping while lying on her back. Ex. K at 76:2-20.

Elvie further fails to explain why “when upright” is necessary (it is not) or how it is consistent with the specifications’ teachings (again, it is not). Indeed, insertion of “when upright” directly contradicts the specifications’ teachings that pumping may occur in non-upright positions,

including “when the user is lying down, bending over, or in environments such as a bumpy ride, as in an automobile or airplane trip.” Ex. B at 32:27-37. Further demonstrating the flaws in Elvie’s proposed construction, its own experts interject ambiguity into their proposed construction by disagreeing on what “when upright” means. While Elvie wrongly blames “Willow’s extensive efforts to confuse this [simple] concept with [so-called] muddled hypotheticals,” Dkt. 82 at 16, Elvie cannot credibly claim its experts’ opinions are “unrebutted” given their plain disagreement.

Finally, Elvie’s response fails to address the numerous other issues:

- Elvie improperly seeks to import the “the suction force and the milk flow path” into claim 11 of the ’228 Patent, despite that claim 11 recites neither a “suction force” nor a “milk flow path.” (Dkt. 75. at 11);
- Elvie arbitrarily substitutes the words “lower end” for the claimed “bottom portion,” even though the substitution is unnecessary and reduces clarity (*id.*); and
- Elvie substitutes the words “away from” for “relative to,” even though “relative to” is easily understood and “away from” introduces unnecessary confusion (*id.* at 12).

### C. **“contained within”**

Elvie’s response does not explain (1) why plain and ordinary meaning is insufficient, or (2) why “contained within” and “contained completely within” should be construed together despite their different language. Elvie’s proposal should be rejected as a threshold matter because it would render “completely” superfluous.

The prosecution history does not dictate a different result. There, Willow distinguished prior art reference Khalil on the basis that it failed to disclose a “pump mechanism and milk collection container … contained within the main body,” as claimed in claim 1 of the ’229 Patent. Dkt. 82 at 16-17. Willow distinguished the examiner’s proposal—formulated under the broadest reasonable interpretation regime—that “contained within” should mean “resting on a surface of the main body 34 or contoured to fit with the main body 34.” Ex. 11 at 4133. Instead, Willow

argued, the pump mechanism and milk collection container must be “within the main body,” which “simply means inside the main body.” *Id.* On that basis, Willow further distinguished arrangements where the “milk collection container [is] configured on an outside of a main body.” *Id.* Willow thus distinguished Khalil because its container was “sized and shaped to reside on the exterior surface … of the breast pump system.” *Id.* This description is consistent with Willow’s cited dictionary definition of “contain” that means “to have within,” as opposed to Elvie’s proposal of “enclosed” which means “closed in or fenced off.” Dkt. 75 at 13.

## II. CONSTRUCTION OF ’005 PATENT CLAIM TERMS

### A. “pump mechanism comprises two drivers” (**’005 Patent, claim 1**)

Elvie does not confront the multiple disclosures in Willow’s specifications that the claimed “flexible member” is not limited to a compressible tube. *See* Ex. A at 9:49-52, 17:35-37, 17:46-47; Ex. C at 9:49-52; Ex. D at 12:2-5.

### B. “the breast pump automatically senses letdown” (**’005 Patent, claim 2**)

Elvie similarly glosses over this term, and merely cites its extrinsic declaration and Willow’s extrinsic development documents. Dkt. 82 at 20.

### C. “chassis” (**’005 Patent, claim 1**)

Elvie fails to justify its departure from the plain and ordinary meaning which seeks to exclude “the case or exterior of the device.” Where Elvie makes no disavowal or disclaimer arguments, the proper analysis must start with the presumption that Willow’s claims are not limited to exemplary. Also, Elvie asserts that the two dictionary definitions cited in Dr. Stone’s report are not conflicting, but Elvie fails to explain how they are not. Dkt. 82 at 21.

### III. CONSTRUCTION OF '229 PATENT CLAIM TERMS

#### A. “a latch suction is maintained throughout the pumping session” ('229 Patent)

Elvie devotes its brief to arguing a point that is uncontested. Willow’s opening brief agreed that “latch suction” means “a minimum vacuum level established when the pump is attached to the breast—i.e., a pressure which is below atmospheric pressure.” Dkt. 75 at 20. Thus, the parties’ dispute is limited to whether “throughout the pumping session” should be narrowed to “during the entire pumping session.” It should not.

Elvie’s brief is silent as to its justification for rewriting “throughout the pumping session” to read “during the entire pumping session.” Elvie fails to acknowledge that its design expert, Mr. Fletcher (1) used “throughout the pumping session” in his declaration, and (2) understands the term “during the entire pumping session” to mean “constantly from start to finish.” *Id.* at 20-21; Dkt. 82 at 22-24. Based on Elvie’s failure to address this issue, the Court should maintain the claim language of “throughout the pumping session.”

Elvie similarly fails to confront the claim language, which merely requires that “*a* latch suction” (meaning one or more) is “maintained throughout a pumping session.” Ex. B at 53:22-23. It is telling that Elvie’s brief consistently refers to “*the* latch suction” but that is not what the claim says. Indeed, Willow has not argued that “*a* latch suction” changes the underlying meaning of “latch suction.” The parties maintain agreement on this point. Rather, Elvie excludes “*a*” from the term to be construed, and then by argument, would have this Court interpret a different claim term: “*the* latch suction.” These claim terms, however, have different meanings. “The” means “one,” whereas “a” means one or more. *See Baldwin Graphic Sys., Inc. v. Siebert, Inc.*, 512 F.3d 1338, 1342 (Fed. Cir. 2008).

### IV. CONSTRUCTION OF WILLOW’S DESIGN PATENT CLAIMS

Elvie’s response resorts to alleging that Willow’s citations to Mr. Fletcher’s deposition

testimony is misleading, but an examination of his testimony reveals that the depictions of the outer edges of Figures 6 and 7 are consistent with the depictions of the outer edges in Figures 1-5 of the D'995 Patent. Mr. Fletcher testified that he understood (1) the dashed line annotated in red to mean that the front portion of the breast pump must extend at least to that dashed line; (2) the front portion of the breast pump may extend beyond the dashed line annotated in red; and (3) consistent with Figure 6, the “intersection” (annotated in Exhibit S in blue ink) between the extended portion and the outer edge of the breast pump would be seen as a solid line. Ex. L at 52:20-54:5, 54:18-56:13.

Elvie wrongly accuses Willow of misleading Mr. Fletcher. But Elvie cannot defend his admission that he failed to consider *any* alternative designs. Ex. L at 99:6-13. That fact alone is sufficient to support a finding that Willow’s design is ornamental, not functional. *See Ethicon Endo-Surgery, Inc. v. Covidien, Inc.*, 796 F.3d 1312, 1330 (Fed. Cir. 2015). Elvie’s argument that Willow fails to counter with expert testimony falls flat—these are publicly available products and are cited in Willow’s claim construction tutorial.

Elvie further fails to explain the basis for including “oval” in its construction, when Mr. Fletcher does not know what it means. Ex. L at 103:2-6. Willow’s point is not that oval means egg-shaped, but rather that Mr. Fletcher’s verbal description introduces more confusion than it purports to resolve. Mr. Fletcher acknowledged that a capsule and an egg shape—which are ovals under common definitions—are not oval under his definition. *Id.* at 102:2-14.

On the D’625 Patent, Elvie’s description suffers the same deficiencies described above. Moreover, the D’625 Patent does not claim the back portion of the breast pump, and thus the claimed design does not even have the alleged “rounded bottom surface that curves until it meets the flat rear surface” that Mr. Fletcher wants to encourage factfinders to notice.

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Respectfully submitted,

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**CERTIFICATE OF SERVICE**

The undersigned hereby certifies that counsel of record who are deemed to have consented to electronic services are being served with a copy of this document via the Court's CM/ECF system per Local Rule CV-5(a)(3) on August 29, 2024.

/s/ *Timothy S. Durst*